cell, are removed upon arrival in a queue from the ATM communications device;

at a start of a transmission process, indicating by a user a maximum number of ATM cells per frame, and transmitting the ATM cells using said maximum number; and

when said maximum number is exceeded, discarding the associated frame or using the first algorithm.

19. The method according to claim 18 wherein a length of the queue is controlled on a connection-specific basis.

20. The method according to claim 18 wherein a constant value is used per connection, which is a measure of a maximum frame size of the connection.

21. The method according to claim 18 wherein, per connection, a number of the cells which have arrived for said connection since an end of the last frame for said connection is stored.

22. The method according to claim 18 wherein no high-priority cells are stored for a connection if a length of the queue for said connection is equal to a value which is independent of said connection and which represents a measure for a fixed upper limit for the queue.

23. The method according to claim 18 wherein if high-priority frames do not exceed the maximum number of

cells per frame, the first algorithm is not used for said frame.

24. The method according to claim 18 wherein a specific portion of a buffer store is reserved for high-priority cells per connection, and low-priority cells are not given any access to said specific portion of the store.

25. The method according to claim 18 wherein no low-priority cells are stored for a connection if the length of the queue for said connection is of at least one size S_PPD___1 = S_EPD_1 + MFS, where S_EPD_1 is independent of said connection and a maximum number of cells per MFS depends on the connection, where PPD represents partial packet discard, EPD represents early packet discard, and MFS represents maximum frame size.

26. The method according to claim 18 wherein high-priority frames are completely discarded if, on arrival of a first cell of a connection, less than a maximum number of cells per frame MFS remains in the logic queue for this connection or the logic queue exceeds a threshold and a status of a buffer store indicates that high-priority frames should be discarded, where MFS stands for maximum frame size.

27. The method according to claim 18 wherein high-priority frames are discarded if, on arrival of a cell which is neither a first nor a last cell in a frame, a

logic value queue has at most one free memory location, or if a length of the logic queue exceeds a connection-specific threshold value or if a filling level of a buffer store indicates that high-priority frames should be rejected, or if the length of the frame is greater than cells with the maximum number of cells per frame.

28. The method according to claim 18 wherein low-priority frames are completely discarded if, on arrival of a first cell of the connection, a length of the queue for this connection is greater than a variable S_PPD_1 or if the length of the queue is longer than a value S_EPD_1 and a status of a buffer store indicates that low-priority frames should be discarded, where PPD represents partial packet discard and EPD represents early packet discard.

29. The method according to claim 18 wherein some low-priority frames for a connection are discarded if, on arrival of a cell which is neither a first nor a last cell in a frame, a length of the queue for said connection is greater than a variable S_PPD_1 - 1 or the length of a queue is greater than a variable S_PPD_1 and a status of the buffer store indicates that low-priority frames should be discarded or if the frame is longer than the maximum number of cells for frame size, where PPD represents partial packet discard.

30. The method according to claim 28 wherein a queue-specific value S_EPD___0 is greater than a value

S_PPD_1 and less than a value S_PPD_0 MFS where MFS is the maximum number of cells per frame, and the value S_PPD_0 represents a measure for a fixed upper limit for the queue, where MFS represents maximum frame size.

31. The method according to claim 18 wherein if a filling level of a buffer store is low, high-priority frames whose first cell has been transferred and whose frame length does not exceed the maximum number of cells per frame are not subjected to the first algorithm.

32. The method according to claim 18 wherein if a filling level of a buffer store is low, low-priority frames whose first cell has been transferred and whose frame length does not exceed the maximum number of cells per frame are not subjected to the first algorithm.

33. The method according to claim 30 wherein an EPD_flag and a FPD_flag are not set at a same time, where FPD represents full packet discard.

34. The method according to claim 33 wherein the values MFS + S_EPD 0 are stored and variables EPD__FLAG, FPD_FLAG and current_Frame_length are controlled for each connection, a variable current__Frame__length being a measure of a length of the current frame.

35. A method for removal of ATM cells from an ATM communications device, comprising the steps of: